



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,407	12/23/2005	Lothar Bruckner	Bruckner L ET AL 3 PCT	6093
25889	7590	03/14/2008		
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			EXAMINER YOUNG, EDWIN	
			ART UNIT	PAPER NUMBER
			3681	
			MAIL DATE	DELIVERY MODE
			03/14/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,407	<b>Applicant(s)</b> BRUCKNER ET AL.	
	<b>Examiner</b> EDWIN A. YOUNG	<b>Art Unit</b> 3681	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is responsive to the amendment filed 12/17/2007. Claims 6, 8 and 10 have been amended. Claims 6-10 are currently pending in this application.

#### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the thrust bearings of claims 6, 8 and 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to because they fail to comply with 37 CFR 1.84(h)(3) and 1.84(u)(1). Accordingly, the Figure should have cross hatching included to better clarify the various parts, and "Fig. 1" should be deleted.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Art Unit: 3681

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 6 is objected to because of the following informalities: Line 4, "is" should be changed to - -are- - for proper grammatical form. Appropriate correction is required.

Claim 6 is objected to because of the following informalities: Line 12, "its a" should be changed to - -a- - to correct a minor typographical error. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758).

Regarding claim 6, DREXL discloses a disk clutch (see Fig. 2), with which a first body and a second body (110) in which a piston to which a pneumatic pressure is applied is mounted in a rotationally fixed but axially displaceable manner, are connected to one another in a non-positive manner via intermeshing disks that can be acted upon by the force of the piston, of a manual transmission (108) for motor vehicles, with a spring force of a spring mechanism (111) which influences an adjusting force produced

Art Unit: 3681

by a power source for operation of the clutch, wherein the spring mechanism and/or at least one of a plurality of thrust bearings (40) associated with the spring mechanism is provided with a sensor (115) which detects solid-state changes for determining the spring force emanating from the spring mechanism and a device for transmitting (86) the measured value thus determined for regulating the adjusting power source, whereby a deceleration force of the pressure applied to the piston counteracting the spring mechanism (111) in the opening of the clutch is part of the adjusting force or thrust force acting on the clutch. However, DREXL does not disclose using hydraulic pressure applied to the piston.

FRIEDRICH discloses in Figure 1 using hydraulic pressure to actuate the piston of a clutch assembly (see column 5, lines 29-31).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the pneumatic pressure system of DREXL with the hydraulic system of FRIEDRICH, for the predictable result of applying pressure to actuate a piston of a clutch assembly.

Regarding claim 7, DREXL discloses the spring mechanism (111) consisting of at least one plate spring or a combination of a plate spring with an ondular washer.

Regarding claim 10, DREXL discloses a method for operating a clutch including providing the structure of claim 6, described in detail above, and wherein the adjusting force acting on the clutch (110) is controlled and/or regulated as a function of characteristic values of the spring mechanism (111) currently determined by the sensor (115).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758) as applied to claim 6 above, and further in view of LUTHJE et al. (US 2003/0089177 A1).

Regarding claim 8 as best understood, DREXL in view of FRIEDRICH discloses the clutch according to claim 6, described in detail above, but does not disclose the sensor being a piezoresistive, amorphous carbon layer applied permanently to a surface area of the spring mechanism or the thrust bearing.

LUTHJE et al. discloses using a piezoresistive, amorphous carbon layer as a sensor for measuring actual condition parameters on surfaces of mechanical components (see ABSTRACT).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the sensor of DREXL, as modified by FRIEDRICH, with a piezoresistive, amorphous carbon layer applied permanently to a surface area of the spring mechanism or the thrust bearing, in light of the teachings of LUTHJE et al., for the predictable result of sensing actual condition parameters of surfaces of mechanical components (see LUTHJE et al., ABSTRACT).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758) as applied to claim 6 above, and further in view of KEENEY (US 6,167,997).

Regarding claim 9 as best understood, DREXL in view of FRIEDRICH discloses the clutch according to claim 6, described in detail above, but does not disclose the sensor being provided with means for a telemetric signal pickup.

KEENEY discloses a clutch assembly (see Fig. 3) wherein telemetry can be used to control the actuator (32) (see column 2, lines 51-59).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the sensor of DREXL, as modified by FRIEDRICH, with means for a telemetric signal pickup, in light of the teachings of KEENEY, in order to eliminate the need for a direct connection to the control unit.

### ***Response to Arguments***

Applicant's arguments filed 12/17/2007 have been fully considered but they are not persuasive.

Applicant argues DREXL does not disclose a sensor that determines the spring force emanating from the spring mechanism. However, as presently claimed, the limitation, "for determining the spring force emanating from the spring mechanism" is merely intended use, which only requires the ability to so perform. DREXL is clearly capable of performing this function, as the position measured by the sensor in DREXL can be used with the known spring constant to derive the spring force.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3681

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWIN A. YOUNG whose telephone number is (571)272-4781. The examiner can normally be reached on M-TH 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. A. Y./  
Examiner, Art Unit 3681

/Richard M. Lorence/  
Primary Examiner, Art Unit 3681